Remarks

In the office action, the Examiner has allowed claims 49-66. The Examiner has objected to claims 11, 14-15, 19, 29, 39 and 75 as being dependent on a rejected base claim but has indicated that these claims would be allowable if rewritten independent form including all of the limitations of the base claim and any intervening claims. The Examiner has rejected claims 1-3, 5, 10, 12-13, 16-17, 20-24, 26 and 30-32 under 35 U.S.C. §102(e) as being anticipated by United States Patent Number 6,675,888, issued in the names of Schempf et al. (hereinafter "Schempf"). The Examiner has rejected claims 1, 7, 22, 28, 33-35, 37, 40-43, 45, 47-48, 67-69, 71 and 73-74 under 35 U.S.C. §102(e) as being anticipated by United States Patent Number 6,953,094, issued in the names of Ross et al. (hereinafter "Ross"). The Examiner has rejected claims 4, 9, 18 and 25 under 35 U.S.C. §103(a) as being unpatentable over Schempf in view of United States Patent Number 4,676,310, issued in the names of Scherbatskoy et al. (hereinafter "Scherbatskoy"). The Examiner has rejected claims 36, 44 and 61 under 35 U.S.C. §103(a) as being unpatentable over Ross in view of Scherbatskoy. The Examiner has rejected claims 6 and 27 under 35 U.S.C. §103(a) as being unpatentable over Schempf in view of Angle. The Examiner has rejected claims 38, 46 and 63 under 35 U.S.C. §103(a) as being unpatentable over Ross in view of Angle.

Claims 1-7, 9-13 and 15-75 are currently pending, of which, claims 1, 16, 22, 33, 41, 49, 58 and 67 are in independent form.

Favorable consideration of the present Response as currently constituted is respectfully requested.

Allowed Claims and Allowable Subject Matter

The Examiner has allowed claims 49-66 and has indicated that claims 11, 14-15, 19, 29, 39 and 75 contain allowable subject matter. The Applicant acknowledges and appreciates the Examiner's indications of allowance of these claims.

Rejection Under 35 U.S.C. §102(e)

The Examiner has rejected claims 1-3, 5, 10, 12-13, 16-17, 20-24, 26 and 30-32 under 35 U.S.C. §102(e) as being anticipated by Schempf. The applicant has amended claim 1 to include the allowable subject matter of claim 14. Accordingly, applicant believes that claim 1 and claims 2-3, 5, 10 and 12-13 that depend therefrom are allowable.

Independent claims 16 and 22 include limitations relating to using a differential pressure across the pressure control member to transmit a longitudinal force with the engagement mechanism to actuate the well tool. Specifically, claim 16 reads as follows:

> 16. (Original) An apparatus for actuating a well tool within a wellbore comprising:
> a downhole robot that provides locomotion within the wellbore;
> a pressure control member operably associated with the downhole robot, the pressure control member having a deployed position; and
> an engagement mechanism operably associated with the downhole robot and releasably engageable with the well

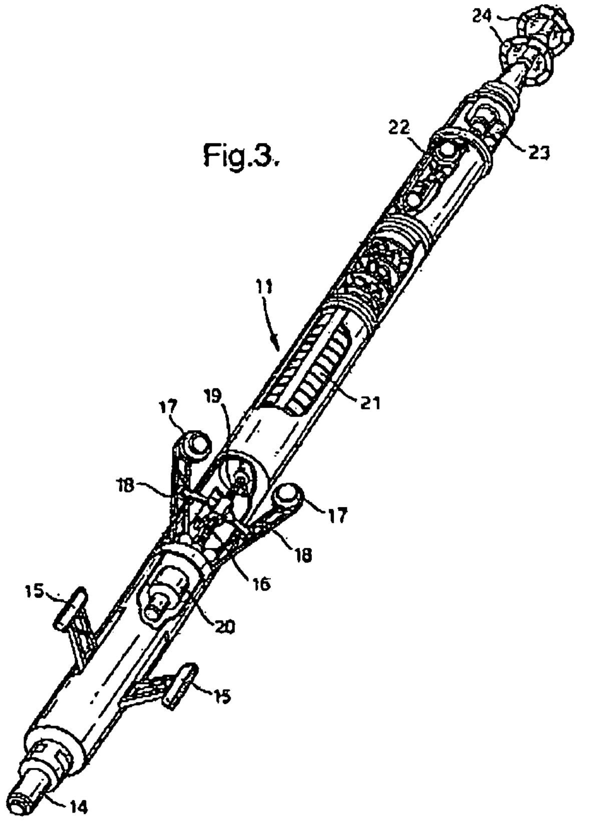
tool such that when the engagement mechanism is engaged with the well tool, the pressure control member is in the deployed position and a differential pressure is created thereacross, ***the downhole robot transmits a longitudinal force to actuate the well tool.***

Claim 22 reads as follows:

22. (Original) A method for actuating a well tool in a wellbore, the method comprising the steps of:
positioning a downhole robot having a pressure control member and an engagement mechanism within the wellbore;
moving the downhole robot within the wellbore to a location proximate the well tool;
releasably engaging the engagement mechanism with the well tool;
creating a differential pressure across the pressure control member; and
transmitting a longitudinal force with the engagement mechanism to actuate the well tool.

Schempf is directed to a method and system for moving equipment into and through a tubular of an oil and/or gas production well including a shuttle device which is able to locomote itself as a wireless tractor into the tubular. The shuttle device 11 comprises an equipment module connector 14, a set of three articulated bracing feet 15, expandable wheel module units 16, 22, a series of inflatable seals 23 and two articulated through flow

Fig.3.



line (TFL) umbrella cones 24. In operation, the shuttle device 11 is able to descend into the well 2 by gravity. To control the speed of descent the wheels 17 may be expanded against a well tubular and drive the electric motor 20 which then acts as a generator and powers the batteries 21. In a horizontal or upwardly sloping well section the batteries 21 will power the motor 20 and wheel units 16, 22 and when the shuttle device 11 has reached a downhole location where an equipment module is to be released and/or picked up, the module connector 14 is activated to release a module and if another module is to be picked up, the shuttle device 11 is moved towards that module whereupon the connector 14 is activated to connect it to the shuttle device 11. The seals 23 and/or TFL umbrella cones 24 are then expanded so that the shuttle device returns as a kind of TFL device activated by the flow of oil and/or gas back to the wellhead 1.

While Schempf discloses an autonomous downhole robot that can engage with and operate another downhole tool and includes a pressure control member, Schempf does not teach, suggest or disclose such a robot that includes a pressure control member that when it is deployed and a differential pressure is created thereacross, the downhole robot transmits a longitudinal force to actuate a well tool. Unlike the pressure control member of the present invention that is used as a force multiplier to allow the robot to perform work downhole, the pressure control member of Schempf is used to retrieve the robot to the surface. As such, claims 16 and 22 are not anticipated by Schempf and should be allowed. In addition, claims 17 and 20-21 that depend from claim 16 as well as claims 23-24, 26 and 30-32 that depend from claim 22 should also be allowed.

The Examiner has rejected claims 1, 7, 22, 28, 33-35, 37, 40-43, 45, 47-48, 67-69, 71 and 73-74 under 35 U.S.C. §102(e) as being anticipated by Ross. The applicant has amended claim 1 to include the allowable subject matter of claim 14. Accordingly, applicant believes that claim 1 and claim 7 that depends therefrom are allowable.

Independent claims 22, 33, 41 and 67 include limitations relating to using a differential pressure across the pressure control member to transmit a longitudinal force with the engagement mechanism to actuate the well tool. Claim 22 is presented above. Claim 33 reads as follows:

> 33. (Original) A method for actuating a well tool in a wellbore, the method comprising the steps of:
>
> positioning a downhole robot having a pressure control member and an engagement mechanism within the wellbore;
>
> autonomously moving the downhole robot within the wellbore to a location proximate the well tool;
>
> releasably engaging the engagement mechanism with the well tool;
>
> deploying the pressure control member into sealing engagement with the wellbore;
>
> creating a differential pressure across the pressure control member; and
>
> ***transmitting a longitudinal force with the engagement mechanism to actuate the well tool.***

Claim 41 reads as follows:

> 41. (Original) An apparatus for actuating a tool positioned within a tubular comprising:
>
> a robot that provides locomotion within the tubular;
>
> a pressure control member operably associated with the robot, the pressure control member having a deployed position; and
>
> an engagement mechanism operably associated with the robot that is releasably engageable with the tool such that when the engagement mechanism is engaged with the tool, the pressure control member is in the deployed position and a differential pressure is created thereacross, ***the robot transmits a longitudinal force to actuate the tool.***

Claim 67 has been amended to read as follows:

> 67. (Currently Amended) An apparatus for actuating a well tool within a wellbore comprising:
>
> a downhole robot that provides locomotion within the wellbore;
>
> a pressure control member operably associated with the downhole robot, wherein a pressure differential is selectively created across the pressure control member when the pressure control member is in a deployed position by establishing a pressure downhole of the downhole robot that is greater than a pressure uphole of the downhole robot; and
>
> an engagement mechanism operably associated with the downhole robot and releasably engageable with the well tool such that when the engagement mechanism is engaged with the well tool, the pressure control member is in the deployed position and the differential pressure is created thereacross, ***the downhole robot transmits a longitudinal force to actuate the well tool.***

Ross is directed to a remote controlled robot that is permanently disposed within a subterranean well completion. The robot is self-propelled, programmable, receives instructions from and communicates data to the surface, and is adapted to receive power from a downhole source and perform a variety of well tasks such as positioning valves and other well tools and sensing the

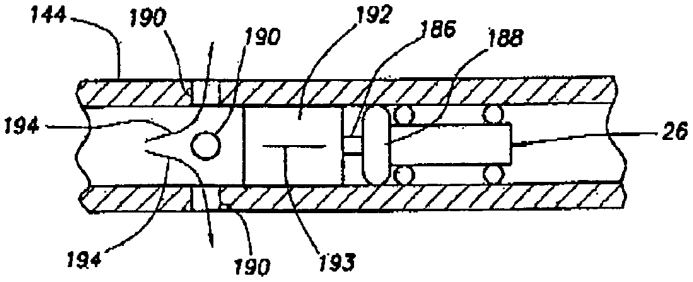


FIG. 19

values of predetermined downhole parameters and relaying the sensed information to the surface. The robot, which is operable without physical intervention through the tubular structure to the robot, propels itself to a location in the tubular structure at which a desired well task is to be performed, performs the task and then parks itself in the tubular structure until another well task is to be performed by the robot. As shown in figure 19 of Ross, robot 26 may be utilized in conjunction with an injection process (such as fracturing or cementing) and includes a sleeve shifting arm 186 and an expandable seal structure 188. Sidewall injection openings 190 are formed in the tubular structure 144 in which the robot 26 is movably disposed, and are normally covered by a sliding sleeve structure 192. To carry out the injection process, the shifting arm 186 is used to slide open the sleeve 192 (as indicated by the arrow 193), and the seal structure 188 is expanded to create a barrier between the openings 190 and the longitudinal portion of the tubular structure 144 downhole therefrom. The injection fluid 194 may then be flowed toward the robot 26 and forced outwardly through the now uncovered sidewall openings 190.

While Ross discloses an autonomous downhole robot that can engage with and operate another downhole tool and includes a pressure control member, Ross does not teach, suggest or disclose such a robot that includes a pressure control member that when it is deployed and a differential pressure is created thereacross, the downhole robot transmits a longitudinal force to actuate a well tool. Unlike the pressure control member of the present invention that is used as a force multiplier to allow the robot to perform work downhole, the pressure control member of Ross is used as a seal only after the work has been performed on the downhole tool. As such, claims 22, 33, 41 and 67 are not anticipated by Ross and should be allowed. In addition, claim 28 that depends from claim 22, claims 34-35, 37 and 40 that depend from claim 33, claims 42-43, 45 and 47-48 that depend from claim 41 and claims 68-69, 71 and 73-74 that depend from claim 67 should also be allowed.

Rejection Under 35 U.S.C. §103(a)

The Examiner has rejected claims 4, 9, 18 and 25 under 35 U.S.C. §103(a) as being unpatentable over Schempf in view of Scherbatskoy. As stated above, applicant believes that claims 1, 16 and 22 are allowable. Accordingly, applicant believes that claims 4 and 9 that depend from claim 1, claim 18 that depends from claim 16 and claim 25 that depends from claim 22 are also allowable.

The Examiner has rejected claims 36, 44 and 61 under 35 U.S.C. §103(a) as being unpatentable over Ross in view of Scherbatskoy. As stated above, applicant believes that claims 33 and 41 are allowable. Accordingly, applicant believes that claim 36 that depends from claim 33 and claim 44 that depends from claim 41 are also allowable. The examiner has indicated that claim 58 is allowed therefore applicant believes that claim 61 is also allowable.

The Examiner has rejected claims 6 and 27 under 35 U.S.C. §103(a) as being unpatentable over Schempf in view of Angle. As stated above, applicant believes that claims 1 and 22 are allowable. Accordingly, applicant believes that claim 6 that depends from claim 1 and claim 27 that depends from claim 22 are also allowable.

The Examiner has rejected claims 38, 46 and 63 under 35 U.S.C. §103(a) as being unpatentable over Ross in view of Angle. As stated above, applicant believes that claims 33 and 41 are allowable. Accordingly, applicant believes that claim 38 that depends from claim 33 and claim 46 that depends from claim 41 are also allowable. The examiner has indicated that claim 58 is allowed therefore applicant believes that claim 63 is also allowable.

Fee Statement

Compared to the previous filing, in the present Response, the number of independent claims has remained the same and the total number of claims has been reduced. The applicant is requesting a one-month extension of time for filing this response. The applicant has enclosed herewith a Form PTO-2038 authorizing payment of $120.00 for the extension fee. The applicant believes no additional fees are due for the filing of this Response. If any additional fees are due or overpayment have been made, please charge or credit, our Deposit Account No. 03-1130.

Conclusion

In view of the foregoing, the Examiner is respectfully requested to withdraw the outstanding objections and rejections as well as allow claims 1-7, 9-13 and 15-75 presented for consideration herein. Accordingly, a favorable action in the form of an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned for any reason that would advance the instant application to issue.

Dated this 12th day of June, 2006.

Respectfully submitted:

Lawrence R. Youst
Reg. No. 38,795
Danamraj & Youst, P.C.
Premier Place, Suite 1450
5910 North Central Expressway
Dallas, Texas 75206
Tel 214.363.4266
Fax 214.363.8177